

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: KOZLOV, VLADIMIR  
TSYRLOVA, IRENA
- (ii) TITLE OF INVENTION: INHIBITOR OF STEM CELL PROLIFERATION AND  
USES THEREOF
- (iii) NUMBER OF SEQUENCES: 11
- (iv) CORRESPONDENCE ADDRESS:
  - (A) ADDRESSEE: NIXON & VANDERHYE P.C.
  - (B) STREET: 1100 NORTH GLEBE ROAD
  - (C) CITY: ARLINGTON
  - (D) STATE: VIRGINIA
  - (E) COUNTRY: U.S.A.
  - (F) ZIP: 22201-4714
- (v) COMPUTER READABLE FORM:
  - (A) MEDIUM TYPE: Floppy disk
  - (B) COMPUTER: IBM PC compatible
  - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
  - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:
  - (A) APPLICATION NUMBER: US 08/477,668
  - (B) FILING DATE: 07-JUN-1995
  - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
  - (A) NAME: BYRNE, THOMAS E.
  - (B) REGISTRATION NUMBER: 32,205
  - (C) REFERENCE/DOCKET NUMBER: 1331-153
- (ix) TELECOMMUNICATION INFORMATION:
  - (A) TELEPHONE: (703) 816-4000
  - (B) TELEFAX: (703) 816-4100

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 423 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GTGCTGTCTC CTGCCGACAA GACCAACGTC AAGGCCGCCT GGGTAAGGT CGGCGCGCAC	60
GCTGGCGAGT ATGGTGCGGA GGCCCTGGAG AGGATGTTCC TGTCTTCCC CACCACCAAG	120
ACCTACTTCC CGCACTTCGA CCTGAGCCAC GGCTCTGCCC AGGTTAAGGG CCACGGCAAG	180
AAGGTGGCCG ACGCGCTGAC CAACGCCGTG GCGCACGTGG ACGACATGCC CAACGCGCTG	240
TCCGCCCTGA GCGACCTGCA CGCGCACAAG CTTGGGGTGG ACCCGGTCAA CTTCAAGCTC	300
CTAAGCCACT GCCTGCTGGT GACCCTGGCC GCCCACCTCC CCGCCGAGTT CACCCCTGCG	360
GTGCACGCCT CCCTGGACAA GTTCCTGGCT TCTGTGAGCA CCGTGCTGAC CTCCAAATAC	420
CGT	423

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 141 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS:
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Val	Leu	Ser	Pro	Ala	Asp	Lys	Thr	Asn	Val	Lys	Ala	Ala	Trp	Gly	Lys	1	5	10	15
Val	Gly	Ala	His	Ala	Gly	Glu	Tyr	Gly	Ala	Glu	Ala	Leu	Glu	Arg	Met	20	25	30	
Phe	Leu	Ser	Phe	Pro	Thr	Thr	Lys	Thr	Tyr	Phe	Pro	His	Phe	Asp	Leu	35	40	45	
Ser	His	Gly	Ser	Ala	Gln	Val	Lys	Gly	His	Gly	Lys	Lys	Val	Ala	Asp	50	55	60	
Ala	Leu	Thr	Asn	Ala	Val	Ala	His	Val	Asp	Asp	Met	Pro	Asn	Ala	Leu	65	70	75	80
Ser	Ala	Leu	Ser	Asp	Leu	His	Ala	His	Lys	Leu	Arg	Val	Asp	Pro	Val	85	90	95	
Asn	Phe	Lys	Leu	Leu	Ser	His	Cys	Leu	Leu	Val	Thr	Leu	Ala	Ala	His	100	105	110	
Leu	Pro	Ala	Glu	Phe	Thr	Pro	Ala	Val	His	Ala	Ser	Leu	Asp	Lys	Phe				

115 120 125  
 Leu Ala Ser Val Ser Thr Val Leu Thr Ser Lys Tyr Arg  
 130 135 140

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 438 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

GTGCACCTGA CTCCTGAGGA GAAGTCTGCC GTTACTGCCC TGTGGGGCAA GGTGAACGTG 60  
 GATGAAGTTG GTGGTGAGGC CCTGGGCAGG CTGCTGGTGG TCTACCTTTG GACCCAGAGG 120  
 TTCTTTGAGT CCTTTGGGGA TCTGTCCACT CCTGATGCTG TTATGGGCAA CCCTAAGGTG 180  
 AAGGCTCATG GCAAGAAAGT GTCGGTGCC TTTAGTGATG GCCTGGCTCA CCTGGACAAC 240  
 CTCAAGGGCA CCTTTGCCAC ACTGAGTGAG CTGCACTGTG ACAAGCTGCA CGTGGATCCT 300  
 GAGAACTTCA GGCTGCTGGG CAACGTGCTG GTCTGTGTGC TGGCCCATCA CTTTGGCAAA 360  
 GAATTCACCC CACCAGTGCA GGCTGCCTAT CAGAAAGTGG TGGCTGGTGT GGCTAATGCC 420  
 CTGGCCCAACA AGTATCAC 438

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 146 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS:  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Val His Leu Thr Pro Glu Glu Lys Ser Ala Val Thr Ala Leu Trp Gly  
 1 5 10 15  
 Lys Val Asn Val Asp Glu Val Gly Gly Glu Ala Leu Gly Arg Leu Leu



Ser Ala Leu Ser Asp Leu His Ala His Lys Leu Arg Val Asp Pro Val  
85 90 95

Asn Phe Lys Leu Leu Ser His Cys Leu Leu Val Thr Leu Ala Ser His  
100 105 110

His Pro Ala Asp Phe Thr Pro Ala Val His Ala Ser Leu Asp Lys Phe  
115 120 125

Leu Ala Ser Val Ser Thr Val Leu Thr Ser Lys Tyr Arg  
130 135 140

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS:
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Val His Leu Thr Asp Ala Glu Lys Ala Ala Val Ser Cys Leu Trp Gly  
1 5 10 15

Lys Val Asn Ser Asp Glu Val Gly Gly Glu Ala Leu Gly Arg Leu Leu  
20 25 30

Val Val Tyr Pro Trp Thr Gln Arg Tyr Phe Asp Ser Phe Gly Asp Leu  
35 40 45

Ser Ser Ala Ser Ala Ile Met Gly Asn Ala Lys Val Lys Ala His Gly  
50 55 60

Lys Lys Val Ile Thr Ala Phe Asn Asp Gly Leu Asn His Leu Asp Ser  
65 70 75 80

Leu Lys Gly Thr Phe Ala Ser Leu Ser Glu Leu His Cys Asp Lys Leu  
85 90 95

His Val Asp Pro Glu Asn Phe Arg Leu Leu Gly Asn Met Ile Val Ile  
100 105 110

Val Leu Gly His His Leu Gly Lys Asp Phe Thr Pro Ala Ala Gln Ala  
115 120 125

Ala Phe Gln Lys Val Val Ala Gly Val Ala Thr Ala Leu Ala His Lys  
130 135 140

Tyr His

145

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 141 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS:
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Val	Leu	Ser	Ala	Ala	Asp	Lys	Ala	Asn	Val	Lys	Ala	Ala	Trp	Gly	Lys
1				5					10					15	
Val	Gly	Gly	Gln	Ala	Gly	Ala	His	Gly	Ala	Glu	Ala	Leu	Glu	Arg	Met
			20					25						30	
Phe	Leu	Gly	Phe	Pro	Thr	Thr	Lys	Thr	Tyr	Phe	Pro	His	Phe	Asn	Leu
			35				40					45			
Ser	His	Gly	Ser	Asp	Gln	Val	Lys	Ala	His	Gly	Gln	Lys	Val	Ala	Asp
			50				55					60			
Ala	Leu	Thr	Lys	Ala	Val	Gly	His	Leu	Asp	Asp	Leu	Pro	Gly	Ala	Leu
			65				70				75				80
Ser	Ala	Leu	Ser	Asp	Leu	His	Ala	His	Lys	Leu	Arg	Val	Asp	Pro	Val
					85				90					95	
Asn	Phe	Lys	Leu	Leu	Ser	His	Cys	Leu	Leu	Val	Thr	Leu	Ala	Ala	His
					100				105					110	
His	Pro	Asp	Asp	Phe	Asn	Pro	Ser	Val	His	Ala	Ser	Leu	Asp	Lys	Phe
					115				120					125	
Leu	Ala	Asn	Val	Ser	Thr	Val	Leu	Thr	Ser	Lys	Tyr	Arg			
					130				135			140			

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS:
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Val His Leu Ser Ala Glu Glu Lys Glu Ala Val Leu Gly Leu Trp Gly  
1 5 10 15  
Lys Val Asn Val Asp Glu Val Gly Gly Glu Ala Leu Gly Arg Leu Leu  
20 25 30  
Val Val Tyr Pro Trp Thr Gln Arg Phe Phe Glu Ser Phe Gly Asp Leu  
35 40 45  
Ser Asn Ala Asp Ala Val Met Gly Asn Pro Lys Val Lys Ala His Gly  
50 55 60  
Lys Lys Val Leu Gln Ser Phe Ser Asp Gly Leu Lys His Leu Asp Asn  
65 70 75 80  
Leu Lys Gly Thr Phe Ala Lys Leu Ser Glu Leu His Cys Asp Gln Leu  
85 90 95  
His Val Asp Pro Glu Asn Phe Arg Leu Leu Gly Asn Val Ile Val Val  
100 105 110  
Val Leu Ala Arg Arg Leu Gly His Asp Phe Asn Pro Asp Val Gln Ala  
115 120 125  
Ala Phe Gln Lys Val Val Ala Gly Val Ala Asn Ala Leu Ala His Lys  
130 135 140  
Tyr His  
145

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 23 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS:  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Val His Leu Ser Ala Glu Glu Lys Glu Ala Val Leu Gly Leu Trp Gly  
1 5 10 15  
Lys Val Asn Val Asp Glu Val  
20

(2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 20 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS:  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

Val	Leu	Ser	Ala	Ala	Asp	Lys	Ala	Asn	Val	Lys	Ala	Ala	Trp	Gly	Lys
1				5				10						15	

Val	Gly	Gly	Gln
			20

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 14 amino acids  
    (B) TYPE: amino acid  
    (C) STRANDEDNESS:  
    (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

Phe	Pro	His	Phe	Asn	Leu	Ser	His	Gly	Ser	Asp	Gln	Val	Lys
1				5				10					